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PRELIMINARY;
121
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                                                                                                                                                         February 16, 2005, 16:12:05; Search time 39.8965 Seconds (without alignments) 2810.909 Million cell updates/sec
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1138
1 MFBRRKEQDEGPGIHBFLAF......RVIASDKIQSKAVVKRIQHF 219
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                      GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
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08C0M6

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06XAF2

06XAF2

06XAF3

06XAF3

06XAF3

06XAF3

06MJ04

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Maximum Match 100%
Listing first 45 summaries
                                                                                                                 OM protein - protein search, using sw model
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Q8K426
Q6JK44
Q6JK43
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Gapop 10.0 , Gapext 0.5
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1: uniprot_sprot:*
2: uniprot_trembl:*
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Maximum DB seq length: 200000000
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Match Length DB
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Perfect score:
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                                                         homo sapien
homo sapien
homo sapien
rattus norv
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gallus gall
gallus gall
homo sapien
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gorilla gor
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.

A Suwa M., Sato T., Okouchi I., Arita M., Futami K., Matsumoto S.,
A Tuutsumi S., Aburatani H., Asai K., Akiyama Y.;
A Tuutsumi S., Aburatani H., Asai K., Akiyama Y.;
A Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.

EMBL; AB065664; BAC05890.1; -.
GO; GO:0008667; Fimetabotropic glutamate, GABA-B-like recepto. .;
R GO; GO:0004872; Fireceptor activity; IEA.

InterPro; IPR001928; ANF receptor.

IR GO; GO:0004872; Fireceptor i.

InterPro; IPR001937; GRE_Mgr.

INTERPO; IPR0003; 7tm 3; 1.

INTERPO; IPR00003; 7tm 3; 1.

INTERPO; IPR000467; I.

R Pfam; PF010094; ANF receptor; 1.

R PRINTS; PR00248; GPCRMGR.

INTERPOSITES; PR0248; GPROTEIN_RECEP_F3_4; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens (Human).
Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
NCBI_TaxID=9606;
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                     099pg5 1
07xtx0
07xtx0
08ngw9
000222
P70579
06b964
08ngu8
0717c1
098uc6
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    755 AA; 83791 MW; 04D56AD8917BDA1F CRC64;
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1-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-UTN-2003 (TrEMBLrel. 24, Last annotation update)
Seven transmembrane helix receptor.
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092515
099PG5
099PG6
07RTX0
08NGW9
MGR8_HUMAN
MGR8_AT
06B964
0717C1
09BUC6
09BUC5
09BUC5
09BUC5
09BUC5
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                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
  842
842
842
852
936
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879
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111
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Pfam; PF01094; ANF receptor; 1. PRINTS; PR00592; CASENSINGR.
                                                                                                   SEQUENCE FROM N.A.
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                 COC STANTANT STANTANT
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GO; GO:0008067; F:metabotropic glutamate, GABA-B-like recepto. . .; IEA.
GO; GO:0004872; F:receptor activity; IEA.
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                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
TISSUE-Vomeronasal neurons;
MEDLINE-97436753; PubMed-9292726; DOI=10.1016/S0896-6273(00)80946-0;
Ryba N.J., Tirindelli R.;
"A new multidene family of putative pheromone receptors.";
Neuron 19:371-379(1997).
                                                                                                                                                               Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus (Mouse).
Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MN2-2003 (TrEMBLrel. 24, Last annotation update)
Mus musculus adult male testis cDNA, RIKEN full-length enriched library, clone-4933425M15 product:similar to PUTATIVE PHEROMONE RECEPTOR V2R2, full insert sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ryba N.J.P., Tirindelli R.;
Submitted (MAR-1998) to the EMBL/GenBank/DDBJ databases.
EMBL; AF053986; AAC08413.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               912 AA; 102348 MW; 2C54FAB6DFBFA48D CRC64;
                                                              Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; IPR001828; ANF receptor.
InterPro; IPR000068; Ca Sens receptor.
InterPro; IPR000337; GPCR Mgr.
InterPro; IPR010337; GPCR Mgr.
Pfam; PF00003; 7tm_3; 1.
Pfam; PF01094; ANF receptor; 1.
Pfam; PF01094; ANF receptor; 1.
PRINTS; PR00592, CASENSINGR.
PRINTS; PR00248; GPCRMGR.
PROSITE; PS50259; G_PCRMGR.
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                                    Created)
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                                                                                                              Putative pheromone receptor V2R2.
070410;
01-AUG-1998 (TrEMBLrel. 07,
01-AUG-1998 (TrEMBLrel. 07,
01-JUN-2003 (TrEMBLrel. 24,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
TISSUE-Vomeronasal neurons;
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Matches 145, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                        Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P23385; 1EWK.
                                                                                                                                                                                                                     NCBI_TaxID=10090;
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SEQUENCE
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Query Match

72 69 132

QBCOM6

RESULT 3
28C006
1D 00C00
AC 08C00
AC 08C00
AC 01-M
DT 01-M
DT 01-M
DE NUB |
DE RECE
GN Nume
CO Nume
CO EUKB

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MGD; MGI:2441693; 4933425M15Rik.

GO; GO:0005615; C:extracellular space; TAS.

GO; GO:0005186; F:G-protein coupled receptor activity; TAS.

GO; GO:0007186; P:G-protein coupled receptor protein signalin. . .; TAS.

InterPro; IPR001828; APR receptor.

InterPro; IPR0000337; GPCR_MGT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
STRAIN=C57BL/6J; TISSUE=Testis;
The FANTOM Consortium,
the RIKEN Genome Exploration Research Group Phase I & II Team;
"Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAB.";
Nature 420:563-573(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN=CS79EL/6J; TISBUB=Testis,
MEDLINE=20499374; PubMed=11042159; DOI=10.1101/gr.145100;
Carnino P., Shibata Y., Hayatuu N., Sugahara Y., Shibata K., Itoh M.,
Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.;
"Normalization and subtraction of cap-trapper selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new genes.";
Genome Res. 10:1617-1630(2000).
                                                                                                                                                                                     STRAIN=CS7BL/6J; TISSUR=Testis;
MEDLINE=99279223; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
Carninol P., Hayashlzaki Y.;
High-efficiency full-length cDNA cloning.";
Meth. Enzymol. 303:19-44(1999).
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Adachi J. Aizawa K. Akimura T., Harawa T., Bono H., Carninci P., Rukuda S., Furuno M., Hanagaki T., Haraa A., Hashizume W.,
Hayashida K., Hayatsu N., Hiramoto K., Hiracka T., Hirozane T.,
A Hayashida K., Ishii Y., Itoh M., Kagawa I., Kasukawa T.,
A Katoh H., Kawai J., Kojima Y., Kondo S., Konno H., Kouda M., Koya S.,
Kurihara C., Matsuyama T., Mayazaki A., Murata M., Nakamura M.,
A Kurihara C., Matsuyama T., Mayazaki A., Murata M., Ohsato N., Okazaki Y.,
Saito R., Saitoh H., Sakai C., Sakai K., Sakausue N., Sano H.,
A Sasaki D., Shibata K., Shinaqawa A., Shiraki T., Soqabe Y., Tagami M.,
Tomaru A., Toya T., Yasunishi A., Muramatsu M., Hayashizaki Y.;
Submitted (JUL-2001) to the BMBL/GenBank/DDBJ databases.
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STRAIN=C57BL/6J; TISSUB=Testis;

MEDLINE=26350913 PubMed=11076861; DOI=10.1101/gr.152600;

MEDLINE=26350913 PubMed=11076861; DOI=10.1101/gr.152600;

Shibata K., Itoh M., Aizawa K., Nagaoka S., Sasaki N., Carninci P., Konno H., Akiyama J., Nishi K., Kitsumai T., Tashiro H., Itoh M., Yamamoto R., Matamuco H., Sakaguchi S., Ikagami T., Kashiko H., Itoh M., Yamamoto R., Ishikawa T., Ozawa M., Ohara B., Watahiki M., Yoneda Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J., Okazaki Y., Muramatsu M., Inoue Y., Kira A., Hayashizaki Y.; Sequencing pipeline with 384 multicapillary sequencer.";

Genome Res. 10:1757-1771(2000).
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RIKEN FANTOM Consortium; "Functional annotation of a full-length mouse cDNA collection."; Nature 409:685-690(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STRAIN=CS7BL/60; TISSUE=Testis;
MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
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STRAIN=C57BL/6J; TISSUE=Testis;
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                                                                                                                                                                                                                                                                                                                      73 DESIESPACEGFNFRGFRAMKTWIHTIKEINERKDILPNHTLGYQIFDNCFSITKAMESS 132
                                                                                                                                                                                                                                                                                                                                                                                                                   133 SVFLTGQEEYKPNWRNSTGKFLIGIIGAGGSTMSAAVSRIVGIHHVPQVGYASSSSIFSN 192
                                                                                                                                                                                                                                                                                            ILBPASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNITLGYQIFDTCFTISKSVEAV 131
                                                                                                                                                                                                                                                                                                                                                                                       132 LVFLTGQEENRPNFRNSTGAFPAGIVGAGGSFLSVPASRILGLYYLPQVGYTSTCVILSD 191
                                                                                                                                                                                               11
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-MAR-2003 (TrEMBLrel. 23, Created)
01-MAR-2003 (TrEMBLrel. 23, Last sequence update)
01-MAR-2003 (TrEMBLrel. 24, Last sequence update)
01-UTN-2003 (TrEMBLrel. 24, Last annocation update)
Mus musculus adult male testis cDNA, RIKEN full-length enriched
11braza, clone:4930518023 product:weakly similar to PUTATIVE PHEROMONE
RECEPTOR V2R2, full insert sequence.
Name=4930518023Rik)
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STRAINE-STBL/G1; TISSUE=Testis;
The FANTOM Consortium,
the RIKEN Genome Exploration Research Group Phase I & II Team;
the RIKEN Genome Exploration Research Group Phase I & II Team;
Analysis of the mouse transcriptome based on functional annotation of
60,770 full-length cDNAs.";
Nature 420:563-573(2002).
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                                                                                                                                                                                             FLAFLWAELGSEAKBEKEEERTCRLLGK-----CVDAENHSLVIGGLFPIDSRTIPANES
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STRAIN=C57BL/6J; TISSUE=Testis;
MEDLINE=99279253; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9;
Carninci P., Hayashizaki Y.;
"High-efficiency full-length cDNA cloning.";
Meth. Enzymol. 303:19-44(1999).
                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus
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                                                                                                                                                  9
                                                                                             Length 476;
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MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
RIKEN FANTOM Consortium;
                                                  54264 MW; 75AA1255B45A4BAF CRC64;
                                                                                             Query Match 53.9%; Score 613; DB 2; Li
Best Local Similarity 58.7%; Pred. No. 2.1e-49;
Matches 122; Conservative 31; Mismatches 49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             618 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       192 KYQPPSYLRVIASDKIQSKAVVKRIQHF 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   193 DIQPPYILRTIPSDKFQSEAIVNLIRHF 220
  PRINTS; PR00248; GPCRMGR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mus musculus (Mouse)
                                                  476 AA;
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SEQUENCE FROM N.A.
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                           Receptor.
SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MGD; MGI:2441682; 4930518C22Rik.
GO; GO:0016021; C:integral to membrane; TAS.
GO; GO:0004330; F:G-protein coupled receptor activity; TAS.
GO; GO:0004310; F:G-protein coupled receptor protein signalin. .; TAS.
InterPro; IPR001828; ANF receptor.
InterPro; IPR000088; Ca Sens receptor.
InterPro; IPR00037; GFCR MGT.
InterPro; IPR011500; NGD3G GPCR.
Pfam; PF01094; ANF receptor; 1.
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SEQUENCE FROM N.A.

STRIN=C57BL/65; TISSUE=Testis;
STRIN=C57BL/65; TISSUE=Testis;
STRIN=C57BL/65; TISSUE=Testis;
A Adachi J., Alzawa K., Akimura T., Hara A., Hashizume W.,
A Hayashida K., Hayatsu N., Hiramoto K., Hiraoka T., Hirozane T.,
Hayashida K., Hayatsu N., Hiramoto K., Hiraoka T., Hirozane T.,
A Hori F., Imotani K., Ishii Y., Itoh M., Kagawa I., Kasukawa T.,
A Katoh H., Kawai J., Kojima Y., Kondo S., Konno H., Kouda M., Koya S.,
Kurihara C., Matsuyama T., Miyazaki A., Murata M., Nakamura M.,
Nishi K., Nommza K., Minazaki R., Ohno M., Ohsato N., Okazaki Y.,
A Saito R., Sakingawa A., Shiraki T., Sogabe Y., Tagami M.,
A Tagawa A., Takahashi F., Takaku-Akahira S., Takeda Y., Tagami M.,
Submitted (JUL-201) to the EMBL/GenBank/DDBJ databases.

EMBL, AKO29734; BAC26588.1; -.
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MEDLINE-20530913; PubMed=11076861; DOI=10.1101/gr.152600; Shibate K., Itoh M., Alzawa K., Nagaoka S., Sasaki N., Carninci P., Konno H., Akiyama J., Nishi K., Kiteunai T., Tashiro H., Itoh M., Sumi N., Ishii Y., Nakamura S., Hazama M., Nishine T., Harada A., Yamamoto R., Matsumoto H., Sakaguchi S., Ikegami T., Kashiwagi K., Pujiwake S., Inoue K., Tagawa M., Ohara E., Watsumi K., Okazaki Y., Ishikawa T., Ozawa K., Tanaka T., Matsuura S., Kawai J., Okazaki Y., Muramatsu M., Inoue Y., Kira A., Hayashizaki Y.; Rimi Nikeganele sequence analysis (RISA) system-384-format Genome Res. 10:1757-1771(2000).
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Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;

Bukaryota, Meoprerygii, Teleostei; Buteleostei; Neoteleostei;

Acanthomorpha; Acanthoperygii; Percomorpha; Tetraodontiformes;

Tetradontoidea; Tetraodontidae; Takifugu.
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66.0%; Pred. No. 5.4e-43;
ive 22; Mismatches 31;
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PRINTS; PR00248; GPCRMGR.
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SEQUENCE
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PRELIMINARY;
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Les 72; Conserve
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TISSUE=Kidney;
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                                                                                                                                                                                                                                                 Query Match
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                                                                                                                                                                                                                                              GO: GO:0016020; C:membrane; IEA.
GO: GO:0016020; C:membrane; IEA.
GO: GO:0016020; F:metabotropic glutamate, GABA-B-like recepto. . .; IEA.
GO: GO:000407; F:metabotropic glutamate, GABA-B-like recepto. . .; IEA.
InterPro: IPR001828; ANF receptor.
InterPro: IPR001033; GA_GEN_MGF.
InterPro: IPR001503; GA_GEN_MGF.
InterPro: IPR011500; NCD3_GPCR.
Ffam; PF01004; ANF_receptor; 1.
Pfam; PF01004; ANF_receptor; 1.
Pfam; PF010562; CASENSINGR.
PRINTS; PR0552; CASENSINGR.
PRINTS; PR05548; GACMAR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           33 ILLGGLEPIHFGISSKDENLAARPESTKCVRFNFRGFRMLQAMVFAIEEINNSSSLEPNI 92
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J. MOL. Endocrinol. 28:111-123(2002).

EMBL, AJ238571; CAC41352.1; -.

HSSP; P233857; IEWK.

GO; GO:0016020; C:membrane; IEA.

GO; GO:0008067; F:metabotropic glutamate, GABA-B-like recepto. .; IEA.

GO; GO:0004872; F:receptor activity; IEA.
                                                                                                                                                  in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
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Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Actinopterygii; Neopterygii; Teleostei; Buteleostei; Neoteleostei;
Acanthomorpha; Acanthopterygii; Percomorpha; Perciformes; Percoidei;
NCBL TaxID=8175;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ingleton P.M.; "Calcitonin: Characterisation and expression in a Teleost fish: Pugu
                                      SEQUENCE FROM N.A.
MEDLINE=98226788; PubMed=9560249; DOI=10.1073/pnas.95.9.5178;
Naito T., Saito Y., Yamamoto J., Nozaki Y., Tomura K., Hazama M.,
Nakanishi S., Brenner S.;
"Putative pheromone receptors related to the Ca2+-sensing receptor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  167 PASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQHF 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         31.8%; Score 362; DB 2; Length 940; 42.8%; Pred. No. 3.2e-25; Live 37; Mismatches 56; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
MEDLINE=21930045; PubMed=11932208;
Clark M.S., Bendell L., Power D.M., Warner S., Elgar G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             940 AA; 105813 MW; 06DAB7803B6878B3 CRC64;
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01-DEC-2001 (TrEMBLrel. 19, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
Extracellular calcium sensing receptor.
                                                                                                                                                                                    Proc. Natl. Acad. Sci. U.S.A. 95:5178-5181(1998)
EMBL; AB008857; BAA26122.1; -.
HSSP; P23385; 1EWK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE; PS00979; G PROTEIN RECEP F3 1; 1.
PROSITE; PS50259; G PROTEIN RECEP F3 4; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity 42.8 tes 74; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRELIMINARY;
  NCBI_TaxID=31033;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Receptor.
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           112
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                                                                                                                                                                Fugu."
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Matches
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112 TLGYQIPDTCFTISKSVEAVLVFLTGQE---ENRPNFRNSTGAFPA--GIVGAGGSFLSV 166
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                                                                                                                                                                                                                                                                                                                                                                                                                53 LVIGGLFPIDSRTIPANESI-LEPASAKCEGFNFORFRWMKAMIHMIKEINKRKDILPNI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nearing J.A., Harris W.;

Submitted (FEB-2003) to the EMBL/GenBank/DDBJ databases.

R EMBL; AY24544; AAP79924.1; -.

RGJ; GO:0016020; C:membrane; IEA.

GO; GO:0008067; F:metaborcopic glutamate, GABA-B-like recepto. ..;

R GO; GO:0004872; F:receptor activity; IEA.

R InterPro; IPR001058; ANF receptor.

R InterPro; IPR001068; Ca sens receptor.

R InterPro; IPR001068; Ca sens receptor.

R InterPro; IPR001069; NCD3G GPCR.

R Pfam; PF00003; 7tm 3; 1.

R Pfam; PF01094; ANF receptor; 1.
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05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last amortation update)
Calcium polyvalent cation receptor 3.
Salmo salar (Atlantic salmon).
Salmo salar (Atlantic salmon).
Actinopterygii, Neopterygii, Teleostei, Euteleostei,
Protacanthopterygii, Salmoniformes, Salmonidae, Salmo.
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                                                                                                                                                                                                                                                                                                Match 31.6%; Score 360; DB 2; Length 940; Local Similarity 42.8%; Pred. No. 5e-25; es 74; Conservative 36; Mismatches 57; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 850;
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                                                                                                                                                                                                              Receptor.
SEQUENCE 940 AA; 105455 MW; 19C3CEDC75A0E3F9 CRC64;
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41.6%; Pred. No. 1.6e-24;
tive 38; Mismatches 57;
Pfam; PP01004; 7tm 3; 1.
Pfam; PP01094; ANF receptor; 1.
Pfam; PP01562; NCD36; 1.
PRINTS; PR00592; CASENSINGR.
PRINTS; PR00248; GPCRMGR.
PROSITE; PS00979; G_PROTEIN_RECEP_F3_1; 1.
PROSITE; PS50259; G_PROTEIN_RECEP_F3_4; 1.
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PRINTS; PR00248; GPCRMGR.
PROSITE; PS00979; G_PROTEIN_RECEP_F3_1; 1.
PROSITE; PS50259; G_PROTEIN_RECEP_F3_4; 1.
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112 TLGYQIFDTCFTISKSVEAVLVFLTGQE---ENRPNFRNSTGAFPA--GIVGAGGSFLSV 166
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        32 ILLGGLFPWHFGVTSKDQDLAARPESTECVRYNFRGFRWLQAMIFAIEBINNSSTLLFPNI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     53 LVIGGLPPIDSRTIPANESI-LEPASAKCEGFNPORFRWMKAMIHMIKEINKRKDILPNI
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01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
Calcium polyvalent cation receptor/salinity sensing protein.
Squalus acanthias (Spiny dogfish).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes;
Blasmobranchii, Squalea; Hypnosqualea; Squaliformes; Squaloidei;
NCBI_TaxID=7797;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    167 PASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQHF 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nearing J., Betka M., Quinn S., Hentschel H., Biger M., Baum M., Bal M., Chattopadyhay N., Brown B.M., Hebert S.C., Harris H.W.; "Polyvalent cation receptor proteins (CaRs) are salinity sensors fish.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GO; GO:0016020; C:membrane; IRA.
GO; GO:0008067; F:metabotropic glutamate, GABA-B-like recepto.
GO; GO:0004872; F:receptor activity; IRA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE=Kidney; MEDLINE=22103704; PubMed=12093923; DOI=10.1073/pnas.152294399;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       31.1%; Score 354; DB 2; Length 941; 41.6%; Pred. No. 1.9e-24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        57; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          941 AA; 106072 MW; C72B91C0029DFF27 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Proc. Natl. Acad. Sci. U.S.A. 99:9231-9236(2002).
EMBL; AF406649; AAM77700.1; -.
HSSP; P23385; 11SS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            38; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro; IPR001828; ANF receptor.
InterPro; IPR000068; Ca Bens receptor.
InterPro; IPR00337; GPCR Mgr.
InterPro; IPR011500; NCD3G GPCR.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity 41.61 es 72; Conservative
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SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  112 TLGYQIFDTCFTISKSVEAVLVFLTGQE---ENRPNFRNSTGAFPA--GIVGAGGSFLSV 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TLGYRIPDICNIVSKALEATLSFVAQNKIDSLNLDBFCNCTDHIPSTIAVVGASGSAVST 151
92 TLGYRIFDTCNTVSKALEATLSFVAQNKIDSLNLDBFCNCTDHIPSTIAVVGASGSAVST 151
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                                                                                167 PASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQHF 219
                                                                                                                           05-JUL-2004 (TrEMBLrel. 27, Created)
05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
Calcium polyvalent cation receptor 2.
Salmo salar (Atlantic salmon).
Actinopterygii, Meopterygii, Teleostei; Buteleostei;
Actinopterygii, Neopterygii, Teleostei; Buteleostei;
Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.
NCBI_TAXID=8030;
                                                                                                                                                                                                                                                                                                                                                                                                                                             05-JUL_2004 (TrEMBLrel. 27, Created)
05-JUL_2004 (TrEMBLrel. 27, Last sequence update)
05-JUL_2004 (TrEMBLrel. 27, Last sequence update)
05-JUL_2004 (TrEMBLrel. 27, Last annotation update)
Calcium polyvalent cation receptor 1.
Salmo salar (Atlantic salmon).
Salmo salar (Atlantic salmon).
Salmo salar (Atlantic salmon).
Puraryota: Metacoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Buteleostei;
Protacanthopterygii; Salmoniformes; Salmonidae; Salmo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GABA-B-like recepto.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE-Kidney;
Nearing J.A., Harris W.;
Submitted (REB-2003) to the EMBL/GenBank/DDBJ databases.
Submitted (REB-2003) to the EMBL/GenBank/DDBJ databases.
EMBL; AY245445; AAP79925.1; -.
SQC:0016020; C:membrane; IEA.
GO; GO:0004872; F:mecaptor activity; IEA.
InterPro; IPR001828; ANF receptor.
InterPro; IPR000068; Ca_GenB_receptor.
InterPro; IPR001337; GAGR MgT.
InterPro; IPR011500; NCD3G_GPCR.
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41.6%; Pred. No. 1.9e-24;
tive 38; Mismatches 57;
                                                                                                                                                                                                                                                                                                                                                                         941 AA
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PRINTS; PRO0548; GPCRMGR.
PROSITE; PSO0979; G PROTEIN RECEP F3 1; 1.
PROSITE; PSS0259; G PROTEIN_RECEP_F3_4; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF00003; 7tm 3; 1.
Pfam; PF01094; ANF_receptor; 1.
Pfam; PF07562; NCD3G; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
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RESULT 9

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53 LVIGGLFPIDSRTIPANESI-LEPASAKCEGFNFORFRWMKAMIHMIKEINKRKDILPNI 111
                                                                                                                                                                                                112 TLGYQIFDTCFTISKSVEAVLVFLTGQE---ENRPNFRNSTGAFPA--GIVGAGGSFLSV 166
                                                                                                                                                                                                             95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Expression of a calcium-sensing receptor in a human medullary thyroid carcinoma cell line and its contribution to calcitonin secretion."; Endocrinology 137:3842-3848(1996).
                                                                                                                                                                    36 ILLGGLFPIHFGVAAKDQDLKSRPEATKCIRYNFRGFRWLQAMIFALEEINNSMTFLEDI
                                                                                                                                                                                                                                                                                                                                                                              (CaSR) (Parathyroid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
MEDLINE=96343808; PubMed=8756555; DOI=10.1210/en.137.9.3842;
Freichel M., Zink-Lorenz A., Holloschi A., Hafner M., Flockerzi V.,
                                                                                                                                                                                                                                           167 PASRILGLYYLPQVGYTSTCVILSDKYQFPSYLRVIASDKIQSKAVVKRIQHF 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
TISSUB-Parathyroid;
MEDLINE-92579439; PubMed=7759551; DOI=10.1074/jbc.270.21.12919;
Garrett J.E., Capuano I.V., Hammerland L.G., Hung B.C., Brown B.M.
Hebert S.C., Nemeth B.F., Puller F.;
"Molecular cloning and functional expression of human parathyroid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Aida K., Koishi S., Tawata M., Onaya T.;
"Molecular cloning of a putative Ca(2+)-sensing receptor cDNA from
                                                                                                                                                                                                                                                                                                                                                                                                                         Euteleostomi;
                                                                                                                                                                                                                                                       9
                                                                                                               Length 1027;
                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutele
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                    56; Indels
                                                                                       1027 AA; 114412 MW; 189FF1E323B5B7C7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pearce S.H.S., Thakker R.V.;
Submitted (DEC-1994) to the EMBL/GenBank/DDBJ databases.
                             PROSITE, PSO0979, G PROTEIN RECEP F3 1; 1.
PROSITE; PSO0980; G PROTEIN RECEP F3 2; UNKNOWN 1.
PROSITE; PSO0981; G PROTEIN RECEP F3 3; 1.
PROSITE; PSS0259; G PROTEIN RECEP F3 4; 1.
                                                                                                                                                                                                                                                                                                                   CASR HUMAN STANDARD; PRT; 1078 AA. P41160; 013912; 016109; 016109; 016110; 016379; 01-FEB-1995 (Rel. 31, Created) 10-FCB-1995 (Rel. 32, Last sequence update) 25-CCT-2004 (Rel. 45, Last annotation update) Extracellular calcium-sensing receptor precursor Cell calcium-sensing receptor).
                                                                                                             31.0%; Score 353; DB 2;
41.6%; Pred. No. 2.6e-24;
ive 39; Mismatches 56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Biochem. Biophys. Res. Commun. 214:524-529(1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             calcium receptor cDNAB.";
J. Biol. Chem. 270:12919-12925(1995).
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MEDLINE=95408281; PubMed=7677761;
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MEDLINE=96193893; PubMed=8613532;
           PRINTS; PR00592; CASENSINGR.
PRINTS; PR00248; GPCRMGR.
                                                                                                  Query Match
Best Local Similarity 41.01
Best Local 72; Conservative
Pfam; PF07562; NCD3G; 1
                                                                                                                                                                                                                                                                                                                                                                                                               (Human)
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                                                                              Receptor.
SEQUENCE
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VARIANTS FHH GLN-185; LYS-297 AND TRP-795.

WEDLINE=$40693241; PubMed=7916660;

POllak M.R., Brown E.M., Chou Y.-H.W., Hebert S.C., Marx S.J.,

Steinmann B., Levi T., Seidman C.E., Seidman J.G.;

"Mutations in the human Ca(2+)-sensing receptor gene cause familial hypocalciuric hypercalcemia and neonatal severe hyperparathyroidism.";

Cell 75:1297-1303(1993).
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MEDLINE=95403641; PubMed=7673400, DOI=10.1210/jc.80.9.2594;
Aida K., Kolshi S., Inoue M., Nakazato M., Tawata M., Onaya T.;
"Familial hypocalciuric hypercalcemia associated with mutation in the human Ca(2+)-sensing receptor gene.";
J. Clin. Endocrinol. Metab. 80:2594-2598(1995).
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DOI=10.1002/(STCI)1098-1004(1997)10:3<233::AID-HUMU9>3.3.CO;2-G;
Ward B.K., Stuckey B.G.A., Gutteridge D.H., Laing N.G., Pullan P.T.,
Ratajczak T.;
Bikle D.D., Ratnam A., Mauro T., Harris J., Pillai S.;
"Changes in calcium responsiveness and handling during keratinocyte differentiation. Potential role of the calcium receptor.";
J. Clin. Invest. 97:1085-1093(1996).
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MEDLINE-95243222; PubMed-7726161;
Chou Y.-H.W., Pollak M.R., Brandi M.L., Toss G., Arnqvist H.,
Atkinson A.B., Papapoulos S.E., Marx S., Brown E.M., Seidman J.G.,
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Pearce S.H.S., Trump D., Wooding C., Besser G.M., Chew S.L.,
Grant D.B., Heath D.A., Hughes I.A., Paterson C.R., Whyte M.
Thakker R.V.;
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J. Clin. Endocrinol. Metab. 84:3036-3040(1999)
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Rattus norvegicus (Rat)
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SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -!- DISEASE: Defects in CASR are the cause of neonatal severe primary hyperparathyroidism (NSHPT) [MIM:239200]; in which the receptor has reduced activity. NSHPT is a rare autosomal recessive lifethreatening disorder characterized by very high serum calcium concentrations, skeletal demineralization, and parathyroid hyperplasia. In some instances NSHPT has been demonstrated to be the homozygous form of FHH.

-!- DISEASE: Defects in CASR are the cause of autosomal dominant hypocalcemia (ADH) [MIM:601198]; in which the receptor is activated at subnormal Ca(2+) levels.

-!- DISEASE: Defects in CASR are the cause of autosomal dominant hypoparathyroidism (FTH) [MIM:146200]. FIH is characterized by hypoparathyroid and hyporphosphatemia due to inadequate secretion of parathyroid hormone. Symptoms are seizures, tetany and cramps.
-!- SIMILARITY: Belongs to the G-protein coupled receptor 3 family.
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G0:0004930; F:G-protein coupled receptor activity; TAS.
G0:0004931; F:phosphoinositide phospholipase C activity; TAS.
G0:0006874; P:calcium ion homeostasis; TAS.
G0:0005513; P:calcium ion sensing; TAS.
G0:0007555; P:chemosensory behavior; TAS.
G0:0007186; P:G-protein coupled receptor protein signalin. .; TAS.
G0:0009553; P:morphogenesis; TAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          hypercalcemia, relative hypocalciuria, and inappropriately normal PTH levels.
                                                                                                                                                                                                                                                                                                                                                                                 Isold=P41180-2; Sequence=VSP_002035;
INSSUB SPECIFICITY: Found in Kidney, but not in brain, lung,
liver, heart, skeletal muscle, or placenta.
DISEASE: Defects in CASR are the cause of familial hypocalciuric
hypercalcemia, type I (FHH) [MIM.145980]; in which the receptor
has reduced activity. FHH is characterized by altered calcium
homeostasis. Affected individuals exhibit mild or modest
Nakayama T., Minato M., Nakagawa M., Soma M., Tobe H., Aoi N., Kosuge K., Sato M., Ozawa Y., Kanmatsuse K., Kokubun S., "A novel mutation in Ca24-sensing receptor gene in familial hypocalciuric hypercalcaemia.", Endocrine 15:277-282(2001).

-I- FUNCTION: Senses changes in the extracellular concentration of calcium ions. The activity of this receptor is mediated by a G-protein that activates a phosphatidylinositol-calcium second
                                                                                                                                                                                                           messenger system.
-!- SUBCELLULAR LOCATION: Integral membrane protein.
-!- ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                     Event=Alternative splicing; Named isoforms=2;
                                                                                                                                                                                                                                                                                                                                       IsoId=P41180-1; Sequence=Displayed;
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1020769; AAA66503.1; ...
1020760; AAA66504.1; ...
1020760; AAA66504.1; ...
1020760; AAA69453.1; ...
1020760; AAB29413.2; ALT_SEQ.1; S68033; AAB29414.1; ...
1020760; S68036; AAB29414.1; ...
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P23385; 1EWK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MIM, 145980; --
MIM, 601200; --
MIM, 146200; --
GO, GO:0005807;
GO, GO:0006814;
GO, GO:0006814;
GO, GO:0006814;
GO, GO:0006814;
GO, GO:0006814;
GO, GO:0006814;
GO, GO:0007186;
GO, GO:0007186;
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                                                                                                                                                                                                                                                                                                               Name=1;
                                                                                                                                                                                                                                                                                                                                                               Name=2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL;
EMBL;
EMBL;
EMBL;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL;
EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HSSP;
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## HONEY F. 45.30.7 i. LEM.

## HONEY F. 40.0008067; F. metabotropic glutamate, GABA-B-like recepto. . .; IEA.

## GO; GO:0008067; F. receptor activity; IEA.

## HONEY IRRO01328; ANF receptor.

## InterPro; IRR001328; ANF receptor.

## InterPro; IRR00131; GPCR Mgr.

## HONEY FEAM; PRO1500; NCD3G GPCR.

## PFAM; PRO1503; AMF receptor; 1.

## PRO1504; AMF receptor; 1.

## PRO1504; AMF RECEP F3 1; 1.

## RINTS; PR00592; G-ROTEIN RECEP F3 1; 1.

## RNOSTE; PR00991; G-PROTEIN RECEP F3 2; 1.

## RNOSTE; PS00980; G-PROTEIN RECEP F3 3; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          55 PESVECIRYNFRGFRWLQAMIFAIBEINSSPALLPNLTLGYRIFDTCNTVSKALBATLSF 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  135 LTGQE---ENRPNFRNSTGAFPA--GIVGAGGSFLSVPASRILGLYYLPQVGYTSTCVIL 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      75 PASAKCEGFNFORFRWMKAMIHMIKEINKRKDILPNITLGYQIFDTCFTISKSVEAVLVF 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11 LALTWHTSAYGPDQRAQKKGD-------ILLGGLFPIHFGVAAKDQDLKSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18 LAFLW--AELGSEAKEEKEERTCRLLGKCVDAENHSLVIGGLFPIDSRTIPANESI-LE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rattus norvejstus (mat).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24;
                                                                                                                                                                                                                                                                                                                                                                                                              64; Indels 24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31.0%; Score 353; DB 2; Length 1079; 36.7%; Pred. No. 2.8e-24; ive 45; Mismatches 64; Indels 2.
                                                                                                                                                                                                                                                                                                                                                31.0%; Score 353; DB 1; Length 1078; 37.1%; Pred. No. 2.8e-24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1079 AA; 120830 MW; 50A2D026AE65CE81 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN=Wistar; TISSUE-Dorsal root ganglion;
Bukoski R., Bian K., Wang Y.;
Submitted (JAN-2003) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-OCT-2003 (TrEMBLrel. 25, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              190 SDKYQFPSYLRVIASDKIQSKAVVKRIQHF 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               44; Mismatches
                                                                                                                                                      Pfam; PF01094; ANF_receptor; 1.
PRINTS; PR00248; GPCRMGR.
PROSITE; PS00979; G PROTEIN RECEP F3_1; 1.
PROSITE; PS00980; G PROTEIN RECEP F3_2; 1.
PROSITE; PS00981; G_PROTEIN_RECEP_F3_3; 1.
                                                                       receptor.
GO; GO:0001503; P:ossification; TAS.
InterPro; IPR001828; ANF_receptor.
InterPro; IPR000068; Ca_Sens_receptor
InterPro; IPR00033; GEC_MGr.
Pfam; PF00003; 7tm_3; 1.
Pfam; PF01094; ANF_receptor; 1.
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                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 37....
Best Local Similarity 37....
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Best Local Similarity 36.7%
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DOMAIN
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                                                                                                                                                                                                                                                                                                                       EMBL;
LTGQE---ENRPNFRNSTGAFPA--GIVGAGGSFLSVPASRILGLYYLPQVGYTSTCVIL 189
                                                 PASAKCEGFNFQRFRWMKAMIHMIKEINKRKDILPNITLGYQIFDTCFTISKSVEAVLVF 134
                                                             LAFLW--AELGSEAKEERKEERTCRLLGKCVDAENHSLVIGGLFPIDSRTIPANESI-LE 74
                    CASR MOUSE STANDARD; PRT; 1079 AA. 990Y96; 008968; 088519; 090Y96; 090Z08; 09R1D6; 09R1Y2; 16-OCT-2001 (Rel. 40, Created) 16-OCT-2001 (Rel. 40, Last sequence update) 25-OCT-2004 (Rel. 45, Last annotation update) Extracellular calcium-sensing receptor precursor (CaSR) (Parathyroid Cell calcium-sensing receptor).
                                                                                                                                                                                                                                                                                                                                                                                                                "The calcium sensing receptor and its alternatively spliced form in murine epidermal differentiation.";
J. Biol. Chem. 275:1183-1190(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Miller S., Shoback D., "Expression and signal transduction of calcium-sensing receptors in cartilage and bone.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 646-799 FROM N.A., AND TISSUE SPECIFICITY.
MEDLINE=97231187; PubMed=9076582;
Quarles L.D., Hartle J.E. II, Siddhanti S.R., Guo R., Hinson T.K.;
"A distinct cation-sensing mechanism in MC3T3-E1 osteoblasts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 256-600 FROM N.A. (ISOFORM A), AND TISSUE SPECIFICITY.
                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Czaniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus
                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A., ALTERNATIVE SPLICING, AND TISSUE SPECIFICITY. STRAIN-CS7BL/6; TISSUE-Kidney;
MEDLINE-210092890; PubMed=10625662; DOI=10.1074/jbc.275.2.1183;
Oda Y., Tu C.-L., Chang W., Crumrine D., Koemueves L., Mauro T.,
Elias P.M., Bikle D.D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A. (ISOFORM A), AND TISSUE SPECIFICITY.
STRAIN=Black Swiss X 129/SVJ; TISSUE=Kidney;
MEDLINE=20119279; PubMed=10652312; DOI=10.1074/jbc.275.5.3256;
Pi M., Garner S.C., Flannery P., Spurney R.F., Quarles L.D.;
"Sensing of extracellular cations in CasR-deficient osteoblasts.
Evidence for a novel cation-sensing mechanism.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=Epiphyseal cartilage,
MEDLINE-20043955; PubMed=10579354; DOI=10.1210/en.140.12.5883;
Chang W., Tu C., Chen T.-H., Komuves L., Oda Y., Pratt S.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUB-Kidney;
Moawad T.I., Riccardi D.;
Submitted (MAY-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE OF 507-582 FROM N.A. (ISOFORM A).
STRALIP-MRI, TISSUE-Brain;
Hildenbrand J. Admon H.P.T., Wahl M.A.;
Submitted (MAX-1998) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                        190 SDKYQFPSYLRVIASDKIQSKAVVKRIQHF 219
                                                                                                                                                     Endocrinology 140:5883-5893(1999),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF 562-814 FROM N.A.
                                                                                                                                                                                                                                                                                                     Name=Casr; Synonyms=Gprc2a;
                                                                                                                                                                                                                                                                                                                Mus musculus (Mouse)
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Extracellular calcium-sensing receptor. Extracellular (Potential).
functionally related to the calcium receptor.";
J. Bone Miner. Res. 12:393-402(1997)
-!- FUNCTION: Senses changes in the extracellular concentration of calcium ions. The activity of this receptor is mediated by a G-protein that activates a phosphatidylinositol-calcium second
                                                                                                                                                                                                                                      IsoId=Q9QY96-2; Sequence=VSP 002036;
-!- TISSUE SPECIFICITY: Epidermis, kidney and cartilage.
-!- SIMILARITY: Belongs to the G-protein coupled receptor 3 family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF01094; ANF_receptor; 1.

PRINTS; PR00248; GFCRMGR.

PROSITE; PS00999; G PROTEIN RECEP F3 1; 1.

PROSITE; PS00981; G PROTEIN RECEP F3 2; 1.

PROSITE; PS00981; G PROTEIN RECEP F3 3; 1.

PROSITE; PS50259; G PROTEIN RECEP F3 4; 1.

Alternative splicing; G-protein coupled receptor; Glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (Potential).
(Potential).
(Potential).
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(Potential)
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Extracellular (Potential).
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Extracellular (Potential).
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2 (Potential).
Extracellular (Potential).
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                                                                                                    messenger system.
-!- SUBCELLULAR LOCATION: Integral membrane protein.
-!- ALTERNATIVE PRODUCTS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (Potential)
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                                                                                                                                                                 Event=Alternative splicing; Named isoforms=2;
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                                                                                                                                                                                                     Isold=Q9QY96-1; Sequence=Displayed;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MGD; MGI:1351351; Gprc2a.
InterPro; IPR001828; ANF receptor.
InterPro; IPR000689; Ca Sens receptor.
InterPro; IPR000337; GPCR Mgr.
Pfam; PF00003; 7tm 3; 1.
Pfam; PF01094; ANF_receptor; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Potential
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AB027140; BAA77688.1; -. AF002015; AAC53252.1; -. AF159565; AAF00193.1; -.
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SIGNAL 1
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                                                                                                                                                                                                                          Name=B;
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TRANSMEM
DOMAIN
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CARBOHYD
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or send an email to license@isb-sib.ch).
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                                                                                                                                                         EMBL; U10354; AAC52149.1; ---
DR EMBL; U10354; AAC52195.1; ---
DR RIBL; U20289; AAC52195.1; ---
DR RIS; 159362; 159362.
DR PIR; 159362; 159362.
DR RIS; P223385; 1EWK.
DR RGD; 2277; Casr.
DR InterPro; 1FR001058; Ca. Sens receptor.
DR InterPro; 1FR00003; 7tm.3; 1.
DR FEAN; PF01094; ANF receptor; 1.
DR PÉAN; PF01094; ANF receptor; 1.
DR PROSITE; PS00990; G-PROTEIN RECEP F3.1; 1.
DR ROSITE; PS00990; G-PROTEIN RECEP F3.2; 1.
DR PROSITE; PS00991; G-PROTEIN RECEP F3.3; 1.
DR PROSITE; PS00991; G-PROTEIN RECEP F3.4; 1.
DR CAPOCTEN COUPLED FS.4; 1.
DR CAPOCTEN CAPOCTEN
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Extracellular (Potential).
1 (Potential).
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Cytoplasmic (Potential).
6 (Potential).
Extracellular (Potential).
7 (Potential).
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2 (Potential).
Extracellular (Potential)
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Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-FEB-1996 (Rel. 33, Created)
01-FEB-1996 (Rel. 33, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
Extracellular calcium-senesing receptor precursor (CaSR) (Parathyroid Cell calcium-sensing receptor).
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Ruat M., Showman A.M., Snyder S.H.;
"Calcium sensing receptor: molecular cloning in rat and localization
"Co nerve terminals.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Proc. Natl. Acad. Sci. U.S.A. 92:3161-3165(1995).
-1- FUNCTION: Senses changes in the extracellular concentration of calcium ions. The activity of this receptor is mediated by a Gracial that activates a phosphatidylinositol-calcium second
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STRAIN=Sprague-Dawley; TISSUE=Kidney outer medulla;
MEDLINE=95116508; PubMed=7816802;
Riccardi D., Park J., Lee W., Gamba G., Brown B.M., Hebert S.C.;
"Cloning and functional expression of a rat kidney extracellular calcium/polyvalent cation-sensing receptor.";
Proc. Natl. Acad. Sci. U.S.A. 92:131-135(1995).
                                                                                                                                                                                                                                                                                                                                                                                       24;
                                                                                                                                                                                                                                                                                                                                        30.9%; Score 352; DB 1; Length 1079; 37.1%; Pred. No. 3.4e-24;
                                                                                                                                                                                                                                                                                                                                                                                     64; Indels
                                                                                                                                                                                                                                                                                           MW; AAF8D8D472736D6E CRC64;
                                                                                                            3 and 5)
                                                                  and 3).
                                                                                                                                                                                                      Ref. 2)
                                        L -> P (in Ref. 3).
G -> D (in Ref. 2 a,
V -> A (in Ref. 2).
Y -> H (in Ref. 2).
F -> U (in Ref. 5).
F -> L (in Ref. 5).
L -> I (in Ref. 5).
TGSN -> SGWI (in Ref. 2).
V -> A (in Ref. 2).
V -> A (in Ref. 2).
I -> V (in Ref. 2).
I -> V (in Ref. 2).
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Rattus norvegicus (Rat).
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hes 78; Conserv
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                                                                      01-JUN-1994 (Rel. 29, Created)
01-JUN-1994 (Rel. 29, Last sequence update)
01-JUN-1994 (Rel. 29, Last annotation update)
Extracellular calcium-sensing receptor precursor (CaSR) (Parathyroid Cell calcium-sensing receptor)
                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE=94077182; PubMed=8255296; DOI=10.1038/366575a0;
Brown E.M., Gamba G., Riccardi D., Lombardi M., Butters R., Kifor O. Sun A., Hediger M.A., Lytton J., Hebert S.C.;
"Cloning and characterization of an extracellular Ca(2+)-sensing receptor from bovine parathyroid.";
Nature 366:575-580(1993)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Extracellular calcium-sensing receptor.
Extracellular (Potential).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       messenger system.
-!- SUBCELLULAR LOCATION: Integral membrane protein.
-!- SIMILARITY: Belongs to the G-protein coupled receptor 3 family.
                                                                                                                                                                                                                                                      Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammallai, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
Bovinae, Bos.
MCBI_TaxID=9913,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       InterPro; iercovor, 7 Tm 3; 1. __ Pfam; PP00003; 7Tm 3; 1. __ Pfam; PP00004; 7Tm 3; 1. __ PR01004; ANF receptor; 1. PRINTS; PR01049; GFRNGR. PROSITE; PS00979; G PROTEIN RECEP F3 1; 1. PROSITE; PS00980; G PROTEIN RECEP F3 2; 1. PROSITE; PS00981; G PROTEIN RECEP F3 3; 1. G-PROTEIN RECEP F3 4; 1. G
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N-linked (GloNAc. .) (Potential)
N-linked (GloNAc. .) (Potential)
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Cytoplasmic (Potential).
2 (Potential).
Extracellular (Potential).
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Cytoplasmic (Potential).
4 (Potential).
Extracellular (Potential).
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Cytoplasmic (Potential).
6 (Potential).
Extracellular (Potential)
                               PRT; 1085 AA
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InterPro, IPR001828, ANF receptor.
InterPro, IPR00068, Ca sens receptor.
InterPro, IPR000337, GPCR_MGF.
                                                                                                                                                                                                       Name=CASR; Synonyme=GPRC2A, PCAR1;
Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; S67307; AAB29171.1; -. PIR; S40476; S40476.
                               STANDARD;
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1085
                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
TISSUE=Parathyroid;
                          CASR_BOVIN
P35384;
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111
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                                                                                                                                                                                                                             92
                                                                                                                                                                53 LVIGGLFPIDSRTIPANESI-LEPASAKCEGFNFORFRWMKAMIHMIKEINKRKDILPNI
                                                                                                                                                                                33 ILLGGLFPIHFGVAVKDQDLKSRPESVECIRYNFRGFRWLQAMIFALEEINSSPALLPNM
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linked (GlCNAc. .) (Potent
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30.7%; Score 349; DB 1;
Best Local Similarity 42.2%; Pred. No. 6.7e-24;
Matches 73; Conservative 38; Mismatches 56;
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